

Safety In & Around Motor Vehicles



North Dakota Child Passenger Safety Conference
August 2015



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Objectives



- Discuss 6 injury risk areas related to motor vehicles other than car crashes.
- List 10 steps that parents or caregivers can take to prevent injuries and deaths related to motor vehicles (not including car crashes).
- Name 5 resources that can be utilized by injury advocates to educate those they serve as it relates to safety in and around motor vehicles.

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Motor vehicle crashes are the #1 killer of children under age 19



Measures are being taken including:

- Car seat check-up events
- Education in schools
- Community education
- Laws that require booster or car seats for children



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Emerging Safety Issues Regarding Injury & Death In and Around Vehicles



- Frontovers
- Backovers
- Trunk entrapment
- Power Windows
- Heatstroke



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The Data



- At least 4 young children are killed in non-traffic automobile incidents every week. They are usually less than 5 years of age.
- In the U.S. at least fifty children are being backed over by vehicles EVERY week. Forty-eight (48) are treated in hospital emergency rooms and at least two (2) children are fatally injured every WEEK.
- Many more are treated in hospital emergency rooms due to non-traffic incidents.

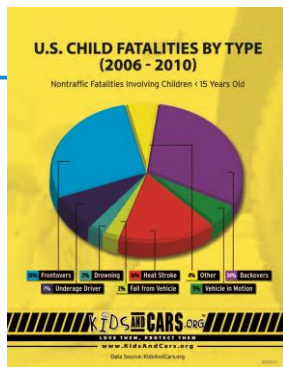
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KidsAndCars.org NATIONAL STATISTICS
Child Nontraffic Fatalities by type & year

	Backovers	Frontovers	Heat Stroke	Vehicle Set in Motion	Underage Driver	Power Window	Falls from vehicle	Vehicle Fire	Other	TOTAL
2013	61	46	44	53	30	3	7	0	2	184
2012	70	32	54	52	24	2	4	2	10	195
2011	78	42	35	33	14	1	5	3	8	195
2010	65	63	49	50	22	1	8	1	11	230
2009	85	58	33	31	31	2	13	2	18	251
2008	77	56	43	7	13	3	2	0	8	209
2007	101	54	37	22	15	2	0	6	11	247
2006	84	61	29	13	14	3	4	2	10	220
2005	108	39	47	17	5	3	3	3	7	232
2004	83	25	39	19	8	9	1	0	9	188
2003	106	9	43	18	2	5	2	4	4	193
2002	71	8	31	14	0	4	2	3	2	135
2001	53	8	39	50	7	4	2	3	5	131
2000	38	6	35	12	5	2	1	3	4	96
1999	84	20	156	31	14	19	2	9	11	356
1998	25	3	25	13	0	20	0	2	7	95
1990-1997	1189	530	717	233	186	80	54	43	127	3159

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FRONTOVERS & BACKOVERS

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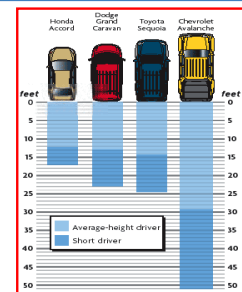
FRONTOVERS & BACKOVERS



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Backovers

- Blind zones refer to the area around the vehicle where the driver cannot see.
- They can reach distances up to 70-80 feet.
- Backovers occur when the driver backs up the vehicle over a child or object.



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The Statistics

- The National Highway Traffic Safety Administration January 2009 report (DOT HS 811 085) states that 'other' (not a backover) non-occupant nontraffic crashes are responsible for 393 deaths and 20,000 injuries per year.
- The predominant age of victims is one year olds. (12-23 months)
- Over 80% of "frontover" incidents involved a larger size vehicle. (truck, van, SUV)
- Tragically, in over 70% of these incidents, a parent or close relative is behind the wheel.

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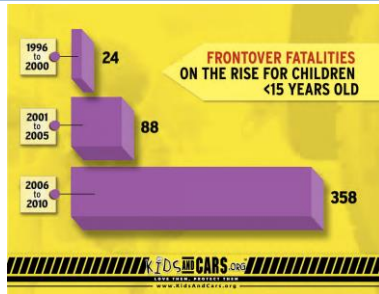
THERE ARE 62 CHILDREN BEHIND THIS VEHICLE.

Not one of them can be seen by the driver behind the wheel.



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Frontovers



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Safety Tips To Prevent Frontovers & Backovers

- Teach children never to play in or near parking lots, driveways or on sidewalks when vehicles are present.



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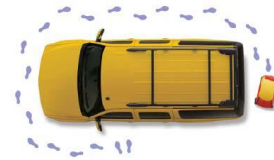
Safety Tips To Prevent Frontovers & Backovers

- Be careful that children don't go running out of building ahead of a parent or caregiver, especially near stores or restaurants where they enter almost directly into traffic.



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Safety Tips To Prevent Frontovers & Backovers



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Safety Tips To Prevent Frontovers & Backovers

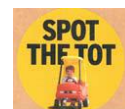
- Education



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Spot the Tot Checklist

- Walk all the way around your parked vehicle to check for children, pets or toys before getting in the car and starting the engine.
- Use a window sticker reminder to walk around the vehicle before every trip.



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Spot the Tot Checklist

- Make sure young children are always accompanied by an adult when getting in and out of vehicles.
- Identify and use safe play areas for children away from parked or moving cars.



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Spot the Tot Checklist

- Designate a safe spot for children to go when nearby vehicles are about to move.
- Firmly hold the hand of each child when walking near moving vehicles and when in driveways, in parking lots or on sidewalks.



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Spot the Tot Checklist

- Make sure that young children don't follow you outside the home when the adult leaves. The car area may be clear but if the child unknowingly follows, the driver may not see them.



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Trunk Entrapment

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Trunk Entrapment Injuries

- May be seen as a "fun place to play". Kids get in but can't get out.
- Trunks can be deadly places due to the heat.
- Kids can access trunks, even without the car keys.



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Trunk Entrapment Prevention

- Cars made after 2001 must have an emergency trunk release – a glow in the dark handle that will open the trunk in the case of an emergency.



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Trunk Entrapment Prevention

- Trunk release retrofit kits can be obtained for as little as \$25.00. Consider purchasing and installing one if your vehicle does not have one.



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Trunk Entrapment Prevention

- Parents need to teach children where the trunk release latch is and how to use it.
- Children need to be reminded that they should never play in or around a trunk, even with a release latch.



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Trunk Entrapment Prevention



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Trunk Entrapment Prevention

- If children are missing, check the vehicle trunk immediately.
- Always lock a vehicle's doors and trunk – especially at home – and always keep keys out of children's reach.



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From these, to these. . .



Power Window Injuries

- Remember that power windows include not only the side windows but sun roofs as well.
- At least 25 children have died from power windows in the last decade.



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What goes UP, should come DOWN.

SAFE POWER WINDOW CAMPAIGN

Three-year old Steven Faulkner and two-year old Zoie Beth Gates are two of at least 100 children killed or injured by power windows.



2006 federal regulation change initiated by NHTSA

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Power Window Injury Prevention

- Always engage the power window 'lock-out' mechanism so children can't play with windows.
- Ensure children and all other passengers have fingers, hands and arms inside the vehicle before raising the windows.
- Be aware that many vehicles' power windows are still operable after the car is turned off and the key is taken out of the ignition. Many vehicles' windows can be operated until a car door is opened.

Power Window Injury Prevention

- Never leave children alone in or around cars; not even for a minute.
- Keep vehicles locked at all times; even in the garage or driveway and always set your parking brake.
- Keys and/or remote openers should never be left within reach of children.
- Make sure all child passengers have left the car after it is parked.

Power Window Injury Prevention

- Teach your children to never play in, around, or behind a vehicle.
- Purchase a vehicle with power windows that automatically reverse the window glass if an obstruction is detected.
- Purchase a vehicle with power window switches that must be pulled up or out to raise the window.



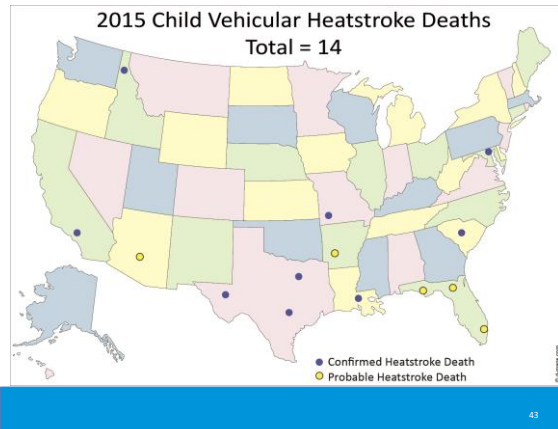
Airbag Injuries & Deaths

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Airbag Injuries & Deaths



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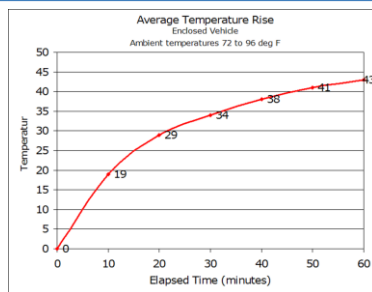


Vehicle Heating Dynamics

- These incidents can occur on days with relatively mild (i.e., ~ 70 degrees F) temperatures and vehicles can occur reach life-threatening temperatures very rapidly.

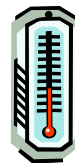


Vehicle Heating Dynamics



Vehicle Heating Dynamics

- Average elapsed time and temperature rise
 - 10 minutes ~ 19 deg F
 - 20 minutes ~ 29 deg F
 - 30 minutes ~ 34 deg F
 - 60 minutes ~ 43 deg F
 - 1 to 2 hours ~ 45-50 deg F
- "Cracking" the windows had little effect
- Vehicle interior color probably biggest factor



Circumstances

- An examination of media reports about the 637 child vehicular heatstroke deaths for a 17-year period (1998 through 2014) shows the following circumstances:
 - 53% - child "forgotten" by caregiver (336 Children)
 - 29% - child playing in unattended vehicle (186)
 - 17% - child intentionally left in vehicle by adult (111)
 - 1% - circumstances unknown (4)

How a Hot Car Affects Kids

- Heat is much more dangerous to children than it is to adults.
- When left in a hot vehicle, a young child's core body temperature may increase **three to five times faster** than that of an adult. This could cause permanent injury or event death!

Legal



- Only 20 states have [laws](#) specifically addressing leaving a child unattended in a vehicle.
- The remaining 30 states do not have laws specifically against leaving a child unattended in a vehicle
- Another 14 states have had previously proposed unattended child laws

Taken from <http://ggweather.com/heat/>



Up & Coming (and current) Technology

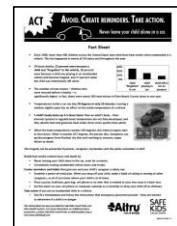
- Back-up Cameras
- Rear Alarm Notification
- Chest Clip Sensors
- Smart Phone Apps



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Heatstroke Prevention Tips

- Educate – A “Parents don’t know what they don’t know topic.”



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Heatstroke Prevention Tips

- Educate – A “Parents don’t know what they don’t know topic.”



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Heatstroke Prevention Tips

- Education site:
 - Stores
 - Child Care Centers
 - Doctor's Offices
 - Post Office
 - WIC
 - Car Seat Check-up Events
 - Emergency Rooms
 - Head Start Locations
 - Public Health
 - Car Dealerships



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Heatstroke Prevention Tips

- Never leave a child unattended in a vehicle – even if the windows are partially open or the engine is running and the air conditioning is on
- Make a habit of looking in the vehicle – front and back – before locking the door and walking away
- Ask the childcare provider to call if the child doesn't show up for care as expected



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Heatstroke Prevention Tips

- Do things that serve as a reminder that a child is in the vehicle, such as placing a phone, purse or briefcase in the back seat to ensure no child is accidentally left in the vehicle, or writing a note or using a stuffed animal placed in the driver's view to indicate a child is in the car seat
- Always lock your vehicle when not in use and store keys out of a child's reach, so children cannot enter unattended. Teach children that a vehicle is not a play area
- Community members who see a child alone in a vehicle should immediately call 911 or the local emergency number. A child in distress due to heat should be removed from the vehicle as quickly as possible and rapidly cooled.

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References & Resources



www.safekids.org

www.kidsandcars.org



www.ggweather.com



Thank you for your part in helping educate parents and caregivers on this important topic.



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